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ABSTRACT

This manual was designed for the administrator who has the responsibility for conducting all or part of an evaluation or is responsible for using evaluation results in program planning. The manual provides step-by-step guidelines to help: identify the purposes and audiences of an evaluation; prepare a basic description of the program or activity; refine educational objectives and establish a priority for the evaluation of each; describe resources and processes to be used in achieving objectives; specify alternative decisions to be made about a program; state evaluation questions; establish guidelines so that the evaluation will be consistent with the demands of funding agencies, district policy, local concerns and ethical principles; identify available resources; specify data sources; determine appropriate measures of processes and outcomes; apply guidelines to measurement instruments; establish and apply criteria for the selection of an evaluation specialist; prepare a basic plan for collecting, analyzing, and reporting information; make judgments concerning types and formats for evaluation reporting, and use various types of evaluation findings. The manual can be supplemented by the Workshop Leader's Guide (TM 007 178). Bibliographical references are appended. (Author/JAC)

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PROGRAM EVALUATION SKILLS FOR BUSY ADMINISTRATORS

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PROGRAM EVALUATION SKILLS FOR BUSY ADMINISTRATORS

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For the

Western Regional Interstate Planning Project

Administered by:

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FOREWORD

This manual is written for you, the busy administrator, who has the responsibility for conducting all or part of an evaluation or is responsible for using evaluation results in program planning. The manual is designed to assist you in planning and carrying out evaluation of an activity or program. It will also help you to work with evaluators when appropriate and to use evaluation results more effectively.

Administrators in many school districts do not have the luxury of program evaluation performed by a full-time evaluation specialist. Even in large school districts, evaluation specialists are not always available. Nevertheless, administrators need to make informed decisions about educational activities and programs in their schools. The information and practice provided in this manual should help you, the administrator, better evaluate and improve your programs.

To be of maximum benefit but of manageable size, the scope and treatment of the content of this manual has been limited. It is hoped that there is sufficient material to allow you to reach the goals listed below and also to encourage you to apply what you have learned and to seek further information about evaluation.

This manual will provide you with step-by-step guidelines to:

- identify the purposes and audiences for your evaluation
- prepare a basic description of your program or activity[1]
- refine educational objectives and establish a priority for the evaluation of each
- describe resources and processes to be used in achieving your objectives
- specify alternative decisions likely to be made about a program
- state evaluation questions

[1]An activity is considered here as a single function or event such as a two-day teacher workshop. A program is considered as a set of activities systematically organized to achieve specific outcomes such as a reading program in a school.

- establish evaluation guidelines to make your evaluation consistent with the demands of funding agencies, district policy, local concerns and ethical principles
- identify available resources for conducting an evaluation
- specify data sources
- determine appropriate ways to measure selected processes and outcomes
- apply the guidelines stated in the manual to measurement instruments
- establish and apply criteria for the selection of an evaluation specialist
- prepare a basic evaluation plan for collecting, analyzing and reporting information
- make judgments regarding various types and formats for evaluation reporting
- use various types of evaluation findings

The forms discussed in this manual are available in a separate packet which can be used as you plan and conduct any evaluation with which you may be associated.

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1
THE PURPOSES FOR EVALUATION

1

PURPOSES FOR EVALUATION

> Why Bother to Evaluate Something? There are many answers to this question. After reviewing some frequent purposes for evaluation, it is useful for you to decide, in a specific situation, why you are doing an evaluation.

Evaluation as used in this manual refers to the process of systematically identifying, collecting, analyzing, reporting and using information about an educational program or activity. In most cases, people want evaluation information for one of two reasons--to have a better understanding of a program or to make decisions about a program's future.

More specifically, people use evaluation information

- to understand better, what a program or activity is intended to accomplish, what methods it uses and what results it is producing
- to determine whether a program's objectives are important, attainable and relevant to the particular persons involved with the program

- to decide whether the resources for a program are adequate for achieving the results expected
- to identify areas in which program activities may need to be changed or improved
- to judge how well a program achieved its objectives, its positive and negative impact and whether it should be continued
- to maintain accountability for effective use of resources

Decisions: What Type Do You Have to Make?

Most purposes described in the prior section involve some type of decision being made at some administrative level. The following table may help you better understand the type of decision you are faced with.

Daniel Stufflebeam and the Phi Delta Kappa National Study Committee on Evaluation have proposed a useful system for classifying educational decisions.[1] Their system classifies decisions as a function of whether they pertain to ends or means and secondly, the relevance of the decision to intentions or actualities.

Thus, all educational decisions can be "classified by 1) intended ends (goals), 2) intended means (procedural designs), 3) actual means (procedures in use), or 4) actual ends (attainments)" as shown in Figure 1.1[2]

TYPES OF DECISIONS

	INTENDED	ACTUAL
ENDS	PLANNING DECISIONS to determine objectives	RECYCLING DECISIONS to judge and react to attainments
MEANS	STRUCTURING DECISIONS to design procedures	IMPLEMENTING DECISIONS to utilize, control and refine procedures

Figure 1.1

[1] Stuffelbeam, Daniel L., et al. Educational Evaluation and Decision Making, Itasca, Illinois: F. E. Peacock Publishers, Inc., 1971, p. 80.

[2] Ibid.

Figure 1.2, which follows, provides a few examples of each of these four types of decisions. Using the program or activity you intend to evaluate (or are actually evaluating) write down specific examples of decisions that are relevant to your situation and show how evaluation findings can be used. An example involving the use of needs assessment results has been provided.

At times the evaluation findings will merely confirm a hunch that program staff felt about a topic and they may feel that the evaluation is worthless since "it told me nothing new." However, one of the functions of evaluation is exactly that--to confirm staff perceptions with independent data. In this case, the evaluation findings may simply support the corrective action that a staff has already taken.

At other times the findings may conflict with the common opinions of the staff. When this occurs, further investigation is warranted to determine the apparent discrepancies. It may be that the staff members were influenced to see what they wanted to see. In other cases, the evaluation instrumentation may not be sensitive enough to detect changes observed by staff. Sometimes discrepancies are a function of the environment in which data are collected. For example, students are more likely to say they enjoy reading history if their history teacher asks them the question than if the question was asked on an unsigned questionnaire by an evaluator.

If an evaluation was not designed to provide unbiased data regarding some potential decision alternatives, it is only by accident that it may later be of use in making decisions. But luck is no substitute for planning! Even the best laid plans often fall short of the mark. It is always possible that because of problems in the instruments, in the design, or in data collection and analysis that the intended purpose of the evaluation was not achieved. For these reasons, the person conducting the evaluation (if other than the program decision maker) should identify what the constraints in the evaluation have been and to what extent the data should be trusted for making decisions. If there are serious reservations about the validity of the data, then the evaluation findings should be viewed as highly tentative. If the evaluation findings are considered valid, they can then be useful in making choices among alternative actions.

PROGRAM DECISION EXAMPLES			
GENERAL QUESTIONS	SPECIFIC QUESTION	EVALUATION FINDINGS	USE OF EVALUATION FINDINGS
Planning Decisions 1. Is the program addressing some of the most critical needs in our district? 2. Is community input used in the planning? 3. Are our objectives realistic for the students to whom they apply?	What do community people in our neighborhood see as the most critical educational needs of senior high school students? A needs assessment could be conducted using personal interviews of 300 randomly sampled adults from the community.	The needs assessment findings indicated a rank ordering of 12 educational goals, which were considered as priority for improvement among high school students, and indicated that 72 percent of the respondents would be willing to support a 10 percent tax level to pay for a program in the priority areas.	Since the community's ranking of educational goals and priority areas for senior high school students was substantially different from the survey of high school teachers taken last year, the superintendent wants to appoint a steering committee of teachers, parents and community leaders to draft out some specific ideas for developing into a program proposal.
Structuring Decisions 1. What funding sources are available to support this program? 2. What staff skills are required for this program? 3. What are the best ways to recruit students for the program?			
Implementing Decisions 1. What additional inservice training is needed? 2. How can students better manage their time so as to complete program requirements? 3. How can parents be more actively involved in the program?			
Recycling Decisions 1. Have students shown significant gain in science? 2. Have school-community relations been improved by the program? 3. Should project funding be continued? 4. Should program goals be changed?			

Figure 1.2

Now let's find out what you plan to evaluate and your reasons for doing the evaluation. In the box below write in the name of the program or activity you are now or will be evaluating and the reasons why you are conducting the evaluation. If your evaluation is intended for decision making, indicate next to each reason whether it is for Planning Decisions (PD), Structuring Decisions (SD), Implementing Decisions (ID) or Recycling Decisions (RD).

Name of One Program or Activity to be Evaluated	Reasons for Evaluating	Type of Decision
_____	_____	_____
_____	_____	_____
_____	_____	_____
	_____	_____
	_____	_____
	_____	_____

Figure 1.3

After identifying your purposes for conducting an evaluation, decide on the audiences for the evaluation results. In other words, who will need the evaluation information and for what purposes? Later in this book you will use this information for helping to decide the types of data to collect and the best ways of presenting them to the different audiences. In the box in Figure 1.4, check any groups who will need the evaluation information either to be informed or to actually make decisions about improving or continuing a program or activity. Be prepared to state how these individuals might use the information.

Program or activity to be evaluated _____

(check appropriate boxes)

Persons needing the evaluation findings	to be informed	to make decisions
Students		
Teachers		
Program Staff		
Non-Program Staff		
Superintendent		
District School Board		
Parents		
Community Advisory Groups		
Community Members		
Funding Agency		
State Department of Education		
Adopting School Districts		
Others (list)		

Figure 1.4

2

DESCRIBING A PROGRAM OR ACTIVITY TO BE EVALUATED

2

DESCRIBING A PROGRAM OR ACTIVITY TO BE EVALUATED

SAMPLE
NOT TO BE REPRODUCED

> What Should Be Evaluated? Before beginning an evaluation, it is important to have a handle on exactly what the program or activity is that is to be evaluated. This section will help you describe a program or activity and determine what aspects of it are most essential to be evaluated.

Describing or understanding what to evaluate often appears deceptively easy. "We will evaluate the new math program" or "We need to evaluate our special education curriculum." But what actually constitutes the "math program" or the "special education curriculum?"

Below are three steps to help you clarify your program "whats." Completing each of these steps to some degree is necessary prior to planning the evaluation. The "degree" to which each step is completed is, of course, up to you. (You know your role and your needs.) These are the steps involved in clarifying what is to be evaluated:

Step 1	Write a statement which describes why the program or activity is needed.
Step 2	Write a statement which describes what the program or activity is supposed to accomplish. (Recall the planning decision step.)
Step 3	Write a statement which describes how the program or activity is to accomplish what is intended. (Recall the structuring decision step.)

Figure 2.1

The information you provide in completing the steps will aid in planning, conducting and reporting the results. (This type of information is generally called for in written reports such as project proposals.) Let us briefly discuss each step.

Step 1	Write a statement which describes why the program or activity is needed.

Figure 2.2

You may already have program documents or proposals which detail this information. If so, review these statements and improve them if necessary. If not, you may find the information in one or more of the following forms:

1. Needs analysis or assessment (e.g., a previous evaluation may have turned up certain student needs which your program was intended to meet)
2. Program rationale statement
3. Rationale section of a legislative mandate

If this information is not available, write a paragraph that describes why the program is needed. Knowing why a program exists prepares us for the next step.

Step 2	Write a statement which describes what the program or activity is supposed to accomplish.

Figure 2.3

SAMPLE
NOT TO BE REPRODUCED

This information may exist in the form of program expectations, goals, objectives or intended outcomes. It may address all or only part of a needs statement. The use of goals and objectives is the most common way of expressing what the program is supposed to accomplish. Here are brief definitions of these terms:

Goals: A general, broad, long-term or ultimate end for which the overall program exists

Objectives: A specific, measurable outcome of the program or a part of the program

A program goal is generally broad and can include specific objectives that are derived from it. For example, a program goal may be that "students will show an increased proficiency in mathematics."

Some objectives deal with student outcomes while others deal with program processes. Here is an example of a student outcome objective that was derived from the broader goal of increased proficiency in mathematics. "Students in the fifth grade math class will answer correctly at least 12 out of 15 multiple choice items involving multiplication of two-digit numbers in a 20-minute period." An example of a process objective is "The Title I Advisory Committee will meet at least six times during the school year to review program plans and activities and to suggest new activities."

A clearly stated objective identifies:

- Who will do the action
- What the activity is
- Criteria for judging the successful completion of the objective, and
- Conditions under which the activity will be conducted

Figure 2.4

Applied to our student outcome objective:

Who--students in the fifth grade math class are the subjects

What--answering multiplication test items correctly in the activity

Criteria--12 out of 15 items correct is the criterion level

Conditions--the 20-minute time period helps to define the environment in which the activity is to occur

Applied to the process objective:

Who--the Title I Advisory Committee

What--will meet to review program plans and activities and to suggest new activities

Criteria--at least six meetings; the level of involvement (i.e., not just listen to a description of what Title I is doing but actually review plans and activities and suggest new activities)

Conditions--these actions will occur in committee meetings

If your program already has clearly stated goals and objectives (both outcome and process objectives), go on to the next step. If they do not exist, some time will need to be spent developing or refining them. In the next section, you will learn how to assess the extent to which your objectives are worthwhile implementing.

Worthwhile Objectives

Usually "goals" are too abstract to measure directly. Objectives, on the other hand, are usually stated so that they can be measured. It is relatively easy to write measurable objectives, but it is not as easy to write worthwhile objectives. To help keep the various program objectives in perspective, ask the following three questions of each objective. If you answer "no" to a question on a given objective, that objective becomes suspect and may need revision or elimination. Three questions to ask concerning the worthwhileness of any objective are:

1. Is this objective clear? For example,
   a. Does the objective tell us specifically what is to be measured?
   b. Will the measurement tell us something useful?
2. Does the objective call for the performance of an important skill or the implementation of an important process? For example,
   a. Does the student need to know this skill for use outside the classroom?
   b. Is this skill a tool which would help the student at a later date achieve a more important objective?
   c. Is the process consistent with the purpose of the project?
   d. Is the process directly related to other important outcomes?

3. Is the objective a challenge and yet achievable? For example,
   a. Will the objective cause students to have to learn something new?
   b. Is the objective realistic for the type of students for whom it was developed?
   c. Is it realistic to expect an Advisory Committee to suggest new program activities?

Next, we will discuss a method to help determine which objectives are most critical to evaluate.

A Hypothetical Project

One of the requirements of the funding agency for a reading project is that you report your findings in terms of reading growth resulting from special treatment. When the project was approved in your district, the superintendent and board indicated that they would install a program as a regular part of the school system if, and only if, it:

1. Resulted in substantial improvement in reading performance of students at the end of the period, and
2. Cost no more than the current reading program.

Some of the staff members wanted the results to be lasting, that is, to carry over year after year. They also wanted the attitudes of students to improve toward reading. Others wanted to insure that teachers received adequate inservice training for the new program and that the program was adequately explained to parents.

The funding ends this year, and you have a limited evaluation budget. Therefore, you would like to do as much of the evaluation as you can yourself using the evaluation specialist as a consultant to help you in areas where you are inexperienced.

Objectives as stated for the project included the following:

1. By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Comprehension Test.
2. Students will be able to read a sample newspaper article and answer correctly in writing four out of six questions dealing with an understanding of facts contained in the sample newspaper article.

3. Students will read more library books on their own initiative than the nontreatment group and select reading more often as a leisure-time activity.

4. Teachers will receive at least 12 hours of inservice training to prepare them for the new program. At least 80 percent of the teachers receiving this training will indicate on an unsigned questionnaire at the completion of the training that they feel the training was valuable in preparing them for teaching the new program.

These are four typical objectives; however, if you consider the questions that might be asked about a special reading program, the number becomes endless, e.g., questions about cost, about effects on staff, effects on recreational and leisure-time activities of students, etc.

The importance of rating individual objectives can be judged in light of three considerations: 1) legal commitment, 2) the value of the information to the decision makers, and 3) logistical conditions, such as the availability of staff, time, or money, as shown below.

1. The agency which funded the program requires a certain set of data. This is a LEGAL COMMITMENT and must be met.

2. The superintendent or school board said this information would be used as a basis for making decisions about the future of the program. This is a VALUE consideration.

3. The collection of longitudinal data would take evaluators three years to collect. This is a LOGISTICAL consideration.

These categories are organizational headings to help you better examine each objective's priority for being evaluated.

Your next step is to rate each objective in terms of its priority for being evaluated. Then, using the ratings as guidelines, give the objective an overall rating according to its priority. Mathematical averages across the scales are not appropriate since an area that is required by law to be evaluated will automatically receive top priority even if there may be some logistical problems in collecting the information.

If your program or activity has only several objectives, it is probably not necessary to utilize the formal procedure of filling out a form such as that on the following page. However, this process is useful when you have more objectives or evaluation questions than you feel your resources will allow for evaluating. With your goals and objectives prepared, you are ready for the final step in the program description.

OBJECTIVE RATING FORM

Objective to be rated _____

_____

_____

Place an "X" in the appropriate place on the line to the right after considering each category as it relates to your particular objective.

Top Priority — Moderate Priority — Low Priority

Legal Commitment

1. Requirements in federal, state or local guidelines.

Value to Decision Makers

2. Importance to the future of the program.

3. Importance to decision makers or curriculum improvers.

Logistics

Facilitates Evaluation — Hinders Evaluation

4. Extent to which the objective has already been fully implemented.

5. Extent to which information regarding this item has already been collected. (If so, do we need to re-evaluate it?)

6. Availability of sufficient funds to carry out an evaluation of this objective.

7. Sufficient time available to evaluate it.

8. Availability of the expertise needed to evaluate this objective.

9. Presence of supportive processes leading to an outcome objective.

10. Others (list) _____

_____

_____

_____

Based on the above profile, what priority rating would you give to the evaluation of this objective? (Circle one)

Top Priority — Moderate Priority — Low Priority — Not Appropriate to Evaluate

Figure 2.5

Step 3	Write a statement which describes how the program or activity is to accomplish what is intended.

Figure 2.6

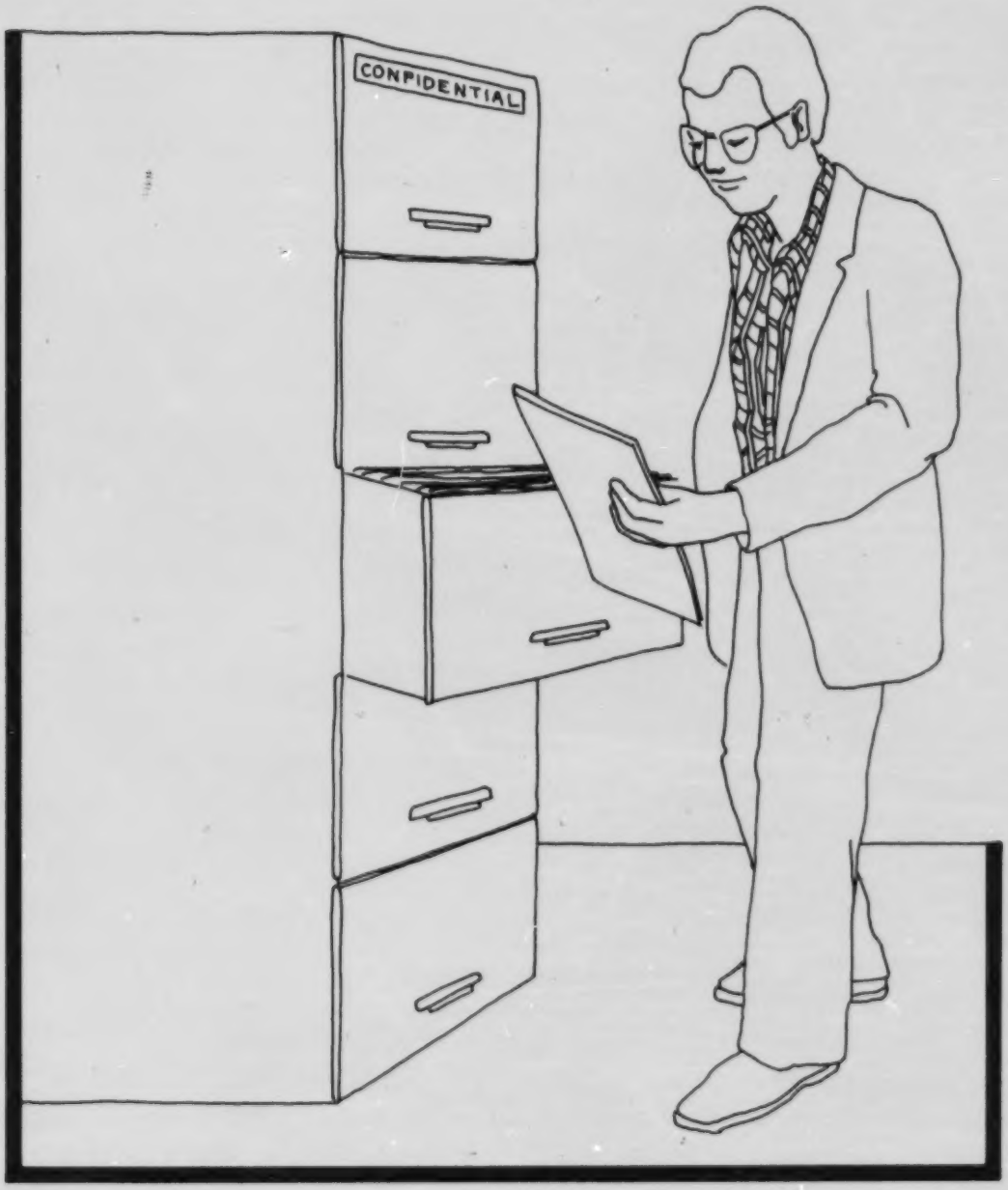
This step calls for program implementation plans. The following key words may help you include most of the relevant facts in your description.

Program:

1. Selection of Participants
2. Participants' Characteristics
3. Instructional Activities
4. Management Activities
5. Program Personnel
6. Resources to be Used
7. Time Schedule
8. Costs

After having completed the three steps in this section of the manual, you should now have a clear description of why the program being evaluated exists, what it is supposed to accomplish and how it is supposed to do it.

3
ESTABLISHING EVALUATION GUIDELINES



3

ESTABLISHING EVALUATION GUIDELINES

What Factors Influence the Way This Evaluation Will Be Conducted? Many. Guidelines from funding agencies; district policies about parental permission for students to be tested, maintaining confidentiality of data, and approval of evaluation instruments prior to their use; availability of district resources in conducting an evaluation--all are important factors governing an evaluation.

Funding Agency

When a district is receiving state or federal funds to operate a particular program, it is essential for people involved in the evaluation to be familiar with any evaluation guidelines or requirements prepared by the funding agency. For example, a district receiving federal Title I funds under the Elementary and Secondary Education Act has certain types of evaluation data that must be collected and reported. If school staff are not sure of these requirements, a district or state Title I coordinator should be contacted. The funding agency may also specify constraints in the collection of the evaluation data such as those related to HEW guidelines for protection of human subjects.

District Policies

Even if no outside funding is used to operate a program, school administrators should check with the district to determine any local policies or laws related to program evaluation. For example, some districts have a policy regarding the release of group evaluation data. In some cases, all evaluation reports are presented to the superintendent, who is then responsible for disseminating them to the Board of Education and the public. Recent legislation regarding parental knowledge and approval of certain types of student testing and the disposition of evaluation information is also an area with which school administrators need to be familiar.

Local Concerns

In addition to district policies and laws related to evaluation, a local school may wish to establish some basic guidelines related to evaluation. For example, some schools require that evaluation instruments be reviewed and approved by the Community Advisory Committee prior to their use. This review can be especially important in detecting sensitive items that would be considered offensive or an invasion of privacy in certain communities.

Evaluation Ethics

As can be seen in citing one example of local concern, the issue of ethics is critical to the effectiveness of the evaluation. A checklist, see Figure 3.1, was developed to help you in planning and implementing your evaluation. Being aware of potential problem areas at this early point in the evaluation may help you avoid these problems later. Read through the form and refer to it as you begin to plan and develop future aspects in the evaluation.

Identify Resources

Evaluation guidelines can also specify the resources available for conducting an evaluation. Before preparing an evaluation plan, it is useful to estimate the budget available for evaluation and to identify personnel and resources likely to be available for the evaluation. These considerations often influence whether an evaluation will be conducted by school staff, evaluators within the district or external evaluators. Available resources within a district can also affect the tasks to be performed by an external evaluator. For example, if an external evaluation is being contracted and the local district maintains an efficient print shop, it is probably more cost-effective for the external evaluator to prepare a camera-ready copy of data collection instruments and evaluation reports for printing in the district facilities.

District Assistance

In considering personnel within the district who could assist in an evaluation, it is often useful to look beyond persons trained particularly in research and evaluation. For example, a district's director of curriculum and instruction might be an excellent person to evaluate a sample of students' individualized projects. Teacher aides can sometimes be trained to be effective data collectors.

CHECKLIST FOR INSURING THE ETHICS OF AN EVALUATION

Evaluation Plan	A Problem	No Problem
1. Has the evaluation plan been reviewed to insure that the treatment of students in a program or comparison group is fair?		
2. Has parental permission for student testing been obtained, if necessary?		
3. Are all of the data to be collected directly relevant to the evaluation needs of a program?		
Evaluation Instruments		
4. Are the evaluation instruments or their assumptions offensive in the opinions of educators or community members?		
5. Are the directions for completing evaluation instruments clear enough for the respondent to know the purpose or use of the instrument?		
6. Are any of the items on an evaluation instrument likely to cast doubt on the respondents' opinions of themselves, their family, heritage, culture or values?		
7. Are any of the items likely to maintain or promote racial or sex role stereotypes?		
Data Collection Coding and Storage		
8. Are people given the option of not completing an instrument or any item on it they find personally offensive?		
9. If interviews are to be taped, is it done with the full knowledge and consent of the subjects?		
10. Are data collection personnel trained to keep sensitive data confidential and to properly administer the assessment?		
11. Are students' names kept separate from other sensitive data when recorded on keypunch cards, tapes or printouts?		
12. Are raw data such as completed questionnaires stored securely and then destroyed when no longer required?		
Interpretation and Reporting of Information		
13. Are student test results interpreted by a qualified person in such a way as to be properly understood by the student or parents?		
14. Is the information reported on individual students adequately reliable for use on an individual basis?		
15. Is evaluation information released to educators or the public in such a way as to avoid harm to an individual or group?		
16. Does the evaluation report cover both the positive and negative findings when present?		
17. Are limitations in the evaluation design, instruments or analyses specified in the report to keep decision makers from reaching unwarranted conclusions?		
Other Areas of Importance		
(List)		

Figure 3.1

Use of an External Evaluation

In the case where a district does not have a skilled evaluator available within the district and funds are available, it may wish to contract externally for all or part of the evaluation. An externally conducted evaluation generally has the advantages of being more independent, providing findings considered to be more credible by the evaluation audiences and conserves district staff time. Some common limitations of externally conducted evaluations are that: the evaluation personnel do not always understand the details of the program or their rationale; it is often more expensive; external evaluators may sometimes be viewed with suspicion if not distrust; and the evaluation findings may not be as useful in leading to specific program modifications.

When selecting external evaluation by individuals or agencies, you should consider the following factors:

- their training in evaluation methodology
- past experiences in evaluating similar programs
- skill in areas of special need, such as test development
- data analysis capabilities (if these are a relevant part of their task)
- skills in relating to students, staff and other groups, such as parents or community volunteers
- availability and geographic proximity to the district
- their cost in relation to the services they agree to provide

If a decision is reached to contract with an external evaluator, a district administrator needs to negotiate a written agreement delineating the responsibilities of the district and of the external evaluator for the design, collection, analysis and reporting of data. Time spent in preparing such an agreement is more than compensated for by the elimination of possible misunderstandings and conflicts at a later period.

An outline of sample items to be addressed in the agreement is found in Figure 3.2. The administrator should keep in mind that the allocation of responsibilities as shown on the following two pages is only an illustration. You and your evaluator may want to modify it to fit your particular situation.

EVALUATION RESPONSIBILITIES OF THE DISTRICT
AND OF AN EXTERNAL EVALUATOR

TASK	DISTRICT	EXTERNAL EVALUATOR
Coordination	Designate a person to coordinate the evaluation responsibilities for the program	Designate an evaluation person as a primary contact person for working with this program
Evaluation Plan	Review the general evaluation plan and revise as necessary to fit the project. Return the revised plan to the external evaluator	1. Prepare a general evaluation plan in cooperation with the project staff 2. Revise and approve the district's revised evaluation plan
Instrumentation	1. Reproduce required copies of all evaluation instruments 2. Order required copies of standardized instruments and answer sheets 3. Develop any local monitoring or evaluation instruments 4. Obtain a review and approval by the district and school officials for use of each proposed evaluation instrument	1. Prepare a draft copy of all instruments to be used 2. Provide the district with a specimen set of standardized instruments to be used together with cost information and an order blank 3. Review any district-developed instruments if requested by the district
Data Collection	1. Schedule and administer all evaluation instruments identified in the evaluation plan 2. Collect and code file data specified in the plan 3. Code responses to all in instruments where needed 4. Mail a duplicate copy of all code sheets to the external evaluator for computer processing	1. Provide the district with a schedule and design for data collection 2. Provide written directions for administering nonstandardized evaluation instruments 3. Prepare common codes and coding directions for all answer sheets and data collection forms
Data Analysis	Identify if there is any special data analysis the district would like to have run that has not already been included in the evaluation plan	1. Verify the correct scoring and/or coding of all instruments 2. Keypunch the data 3. Provide scoring services 4. Analyze the data
Reporting	1. Identify the information needs of the people in the district if they have changed since the evaluation plan was prepared 2. Review the draft evaluation report for any factual errors or misrepresentations 3. Print the required number of evaluation reports and abstracts	1. Prepare a draft copy of the evaluation report and give it to the district evaluation coordinator for review 2. Prepare a final camera-ready copy of the evaluation report 3. Prepare a camera-ready copy of an evaluation report abstract

Figure 3.2

Estimating Evaluation Costs and Personnel Requirements

The costs and external personnel required in conducting an evaluation depend on a number of factors such as the type of evaluation to be conducted, the amount of work done by the internal staff, the size of the project, and travel and fees of the evaluator. Evaluation costs can usually be grouped under the following categories: personnel costs, travel, purchasing evaluation instruments, data collection, data coding and scoring, data maintenance, data analysis, report writing, and presentation of findings.

A rule of thumb used by some administrators in proposal writing is to estimate the evaluation costs to be between five and ten percent of the total program budget. Larger projects (for example, those for over $150,000) often can have an adequate evaluation for closer to five percent of the total budget while smaller projects (those under $50,000) may need more than ten percent since many functions such as instrument development are required regardless of the number of students tested.

Now that we have reviewed some of the important considerations in establishing evaluation guidelines, turn to the next page and check the appropriate columns in the box to see whether you have accounted for these important considerations that influence the way your evaluation will be conducted.

REVIEW OR ESTABLISH EVALUATION GUIDELINES

Guideline Considerations	I Have Reviewed/ Established These	These Have Been Applied to the Evaluation Guidelines	More Work Needed
1. Evaluation guidelines or requirements of the funding agency (if applicable)			
2. Legislation regarding parental permission, confidentiality of data and policy concerning release of student records			
3. District policies concerning evaluation			
4. School level policies concerning evaluation			
5. Evaluation budget available			
6. District/school personnel available to work on the evaluation			
7. Policy regarding the use of the district's computer, printing and other facilities			
8. External evaluator's roles defined (if applicable)			
Other areas (list) _____			
_____			

Figure 3.3

4

PREPARING AN EVALUATION PLAN

4

PREPARING AN EVALUATION PLAN

What Should Be Covered in an Evaluation Plan? An adequate evaluation plan requires that certain questions be answered before you begin your data collection. In this section you will fill out, step by step, the elements of a complete plan. You will learn appropriate criteria to apply to your evaluation plan or to those developed by others. A well developed evaluation plan can save you time and headache in carrying out an evaluation and help to insure that the data you collect and report will be useful for decision making. The evaluation plan should be formulated before or at the outset of a program's implementation.

Eight elements of a comprehensive evaluation plan are shown in Figure 4.1. Each step is discussed on the following pages.

Evaluation Plan Outline

Step	Question
1. Objectives/Issues	What questions are being asked?
2. Information Requirements	What information is needed to answer the questions?
3. Information Source	From whom can the necessary information be secured?
4. Instruments	What can be used to find the answer?
5. Design	Who will complete the instruments and what comparisons may be made?
6. Time Schedule	When will the information be collected, analyzed and reported?
7. Analysis	What do we do with the data?
8. Report	Who needs to know about it?

Figure 4.1

Step 1. Objectives/Issues

What Questions Are Being Asked? In Section 2 of this manual you learned how to refine program objectives and to identify a priority of which objectives or questions are most important for you to evaluate in a given period.

The objectives you are planning to evaluate or the questions arising from those objectives which you hope to answer may deal with information concerning areas such as student outcomes, efficiency of your staff, community attitude, or availability of extra movie projectors. The evaluation question can be generated by discussions of the project staff and the evaluator early in the evaluation process. However, if the evaluation is to be a useful tool for program improvement it is important to be able to add some new questions as they arise throughout the year. The same type of plan described below can be developed to help you gain the most useful information about each objective/question. For an example, let us use the objective stated in Figure 4.2.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made a significant growth in reading as measured by the Woodcock Reading Test.

Figure 4.2

This objective deals with student outcomes. For an example of how process objectives can be treated in an evaluation plan, see pages 39 and 40.

Once you have each objective or question recorded on a form, you are ready for Step 2.

Step 2. Information Requirements

What Information Is Needed to Answer the Questions? An information requirement is the information needed to adequately evaluate a particular objective. In this section we will use the objective stated in the box above in building the elements of an evaluation plan.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made a significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	

Figure 4.3

The information you feel is required should be stated in the space indicated. You can compare your answer with that shown in Figure 4.4.

Step 3. Information Source

Where and How Can the Necessary Information Be Secured? Sources of information are the individuals, agencies, or records from which the required information can be gathered.

Here are some questions you might ask to help you determine the appropriate source.[1]

1. Which sources have the necessary information?
2. How much information does each source have?
3. How valid and reliable is the information in each case?
4. Will gathering this information from the source be too burdensome for the source? (Collecting too much information from a single source may cause problems in attitude or cooperation.)
5. Which is the most efficient source?
6. Will more than one source be needed to compare results for accuracy?

After answering these questions, fill in the information in the appropriate space on the form below. You can compare your answer with that in Figure 4.5.

[1] Adapted from "Evaluation and Educational Decision Making," A Publication of the Department of Health, Education and Welfare, 1975, p. 42.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.[2]
3. Information Source	

Figure 4.4

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.

Figure 4.5

You are now ready to go on to Step 4.

[2] A norm is an empirically derived distribution of scores on a test for students around the country at one or various grade levels.

Step 4. Instruments

What Can Be Used to Find the Answer? Instruments are the tools or means you use to collect information. Instrumentation, then, is the process of selecting or developing the instruments you will need. There are two major types of instruments. The first type is commercially developed. Examples are standardized tests you may purchase. Some of these are norm referenced while others are criterion referenced (related to prespecified curriculum tasks to be performed, e.g., addition of fractions). Here are a few points to keep in mind when using standardized tests.

- They are usually easy to administer, score and interpret
- Information concerning reliability and validity is generally available in the test publisher's technical manual
- Prepared tests may not measure exactly what you wish to measure (but don't change your objectives to meet the instrument)

The second type of evaluation instrument is often called "locally prepared" instruments. These are developed specifically to collect data for a given evaluation plan. You may be able to develop these yourself, depending on the nature of the information requirements or you may ask a trained evaluator for assistance. Below are a few types of commonly used locally prepared instruments.

1. Tests (draw on standardized tests for ideas but remember their tests are copyrighted; also contact the National Assessment of Educational Progress for samples of criterion referenced items)
2. Questionnaires (self-reporting forms)
3. Observation scales (generally for observing classrooms)
4. Interview questions
5. Document review summaries (analysis of School Board minutes)
6. Staff reporting forms (rating sheets or narrative statements)

Because the time and resources available for an evaluation are usually limited, it is wise to consider a variety of potential evaluation instruments[3] and then to analyze the alternatives and to select the minimal number needed to accomplish the job. Factors to consider in determining priorities

[3]The reader may wish to read the section on "data sources" in S. Anderson, Encyclopedia of Educational Evaluation, Isaac and Michael, Handbook in Research and Evaluation, Worthen and Sanders, Educational Evaluation: Theory and Practice or Owens, Haenn and Fehrenbacher "The Use of Multiple Strategies in Evaluating an Experience-Based Career Education Program." A complete citation of each of these is located in Section 7 of the manual.

among potential instruments of equal validity include:

1. Costs
2. Timing
3. Credibility of findings
4. Degree of obtrusiveness
5. Amount of coordination needed
6. Efficiency

Cost

Cost factors to be considered include the cost of purchasing or developing an instrument as well as the cost to administer, score and analyze it. The amount of time involved of students, staff or community resource persons if often overlooked but should be taken into consideration in determining costs.

Timing

The timing of data collection is another crucial factor. Several elements of timing need to be considered including:

1. The deadline when the information is needed
2. The length of time it would take to plan, collect and analyze data
3. The most appropriate time in the developmental cycle of a project for collecting certain data

Credibility

Credibility of the findings is something that is often overlooked until an evaluation is completed and the data reported. Some audiences such as educational researchers may be impressed with "hard data" such as a multivariate analysis of scores from a standardized test. Other audiences, such as parents, may be more informed by well written student case studies. In addition, credibility of the evaluation findings can be enhanced when several evaluation instruments produce results that reconfirm or support what was found through the use of a single instrument.

Degree of Obtrusiveness

Another important factor to consider in selecting evaluation instruments is the extent to which they will be obtrusive and perhaps clash with the mission and activities of the project. The evaluation of a sample of already completed student written reports provides an excellent insight into student learning outcomes without requiring additional time of students. On the other hand it may be unreasonable and inappropriate to administer a three or four hour basic skills test battery twice a year if the students already have a dislike for test taking.

Coordination

A point often overlooked in selecting appropriate ways to obtain needed information is the amount and type of coordination required. This coordination includes the amount and type of interference that may accrue to students, staff and others such as participating community people. It also includes the coordination of persons or agencies to be involved in the data collection for each instrument.

Efficiency

Although we have mentioned that credibility is enhanced when several evaluation approaches related to the same issue produce consistent findings, one has to weigh to trade off between a redundancy of information collected on a few issues to establish the reliability of the findings versus the expense of foregoing the collection of unique information about additional issues. Always check to determine if useful data are currently available from other processes such as a district-wide testing program.

In our example the instrument is clearly identified in the objective. In many cases it will not be so easy. This information should be entered on the form for Step 4.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.
4. Instruments	

Figure 4.6

Step 5. Design

Who Will Complete the Instruments and What Comparison May Be Made?

An evaluation design is a plan or strategy for collecting and analyzing information about a program. It also identifies the comparisons or criteria to be used in judging the program's success.

On the next page are a sample of questions you might need to address in your evaluation. Under "Design" are listed the designs, methods or types of strategies most appropriate to answer those particular questions. Find the question which best describes your situation and note the appropriate strategy. If the strategy is one with which you are unfamiliar or which you know is beyond the expertise of the project staff, you should consult an evaluation specialist. Some references are given in Section 7. Your questions may require entirely different designs than those shown on page 32.

Sample Questions	Corresponding Designs
We know how well the fifth graders can spell from past testing and experiences (baseline data). Will this new spelling program improve their spelling over what we expect?	Administer at the end of the school year the same spelling test used in the past to this year's fifth graders and compare the results with the baseline data using available norms.
We need to know at what level entering sophomores are in their math skills and whether this new program improves those skills.	Administer a math test to the sophomores at the beginning and end of the school year and compare their results.
How effective is the new fourth grade reading program as compared with the one we have been using?	Randomly assign half of the fourth grade students in a school to one reading group using the new program and the other half to a group using the older program. Have the same teacher teach both groups. Select a reading test equally fair to both programs and compare the posttest results of each group.
Do the seniors in our new career education program make greater progress in job interview skills than students in our vocational education program?	Develop a simulated job interview and randomly sample perhaps 20 students from each of the two groups to participate in the simulation at the beginning and end of the school year. Have the simulation scored and compare the increase in scores made by the two groups.

Figure 4.7

Enter the appropriate design on the Evaluation Plan form, Figure 4.8.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.
4. Instruments	California Achievement Test, Form C
5. Design	

Figure 4.8

If your answer involved comparison of the pretest and posttest results, which the objective calls for, you are ready to go on to Step 6.

Step 6. Time Schedule

When Will the Information Be Collected, Analyzed and Reported? The first question to ask is when will each instrument be administered. Sometimes an instrument such as a questionnaire will be administered only a single time. If an interview or a test is administered twice (pre-post) or three times, these times should also be recorded. Other data often called "process data" refer to ongoing data collected periodically throughout a school year such as student attendance data for each grading period. Fill in appropriate times in the box on the next page.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.
4. Instruments	Woodcock Reading Test.
5. Design	Pretest-posttest.
6. Time Schedule	Pretest--September 15-18 Posttest--May 12-16

Figure 4.9

Now that you have entered the time schedule, you are ready to go on to Step 7.

Step 7. Analysis

What Do We Do With the Data? Data analysis is the process of making useful information out of raw data.

This can be as simple as counting how many people liked and disliked a certain textbook, to some very complex statistical manipulations. If you have little or no statistical background and the analysis requires more than percentages and graphs, it is best to consult an evaluator. The analysis technique should be listed on the form below.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.
4. Instruments	Woodcock Reading Test.
5. Design	Pretest-posttest.
6. Time Schedule	Pretest--September 15-18 Posttest--May 12-16
7. Analysis	

Figure 4.10

Although at this point you may not be familiar with the many alternatives of data analysis, the key features of some of the most commonly used statistics are explained on the following pages to give you some orientation. Keep in mind whether you will have to be performing the calculations by hand, with the assistance of a programmed calculator or will have access to a computer and available statistical packages.

KEY FEATURES OF SOME COMMONLY USED ANALYTICAL TECHNIQUES

Analytical Technique and its Symbol	Key Elements	Example
CHI SQUARE (x^2)	Used to test the significance of differences between: (1) observed frequencies and expected frequencies; or (2) two sets of observed frequencies.	Is there a significantly larger proportion of boys than girls who applied for entry into a new science program?
t TEST (t)	Used to test whether the differences between two means (group averages) is significant. It can measure the difference between two groups or between the pre- and posttest scores of the same group.	Did the students in the home economics course show significant growth on the HE203 test between the beginning and end of the semester? Did students in the Head Start program score significantly higher on the Peabody Test than youngsters who remained at home?
ANALYSIS OF VARIANCE (ANOVA)	Used to test the significance of differences among more than two variables or more than two groups.	Which of three methods of teaching word recognition is most effective for slow learners.
MULTIPLE ANALYSIS OF VARIANCE (MANOVA)	Used to test the significance of differences between two or more groups simultaneously on more than one variable.	Do students in the experimental high school program score significantly higher in basic skills (as measured by separate scores in reading, arithmetic and language expression) than those in the traditional program?
ANALYSIS OF COVARIANCE (ANCOVA)	Used to test the significance of differences between two groups when the two groups are not considered equal at pretest time.	Do students in the work experience program make greater gains in career maturity than those in the vocational education class when students' IQ is accounted for?
MULTIPLE REGRESSION	Combination of several predictive measures to predict achievement or other outcomes.	Do students' age, sex and pretest scores on an achievement test significantly predict the performance outcomes of the program as measured by posttest scores?

Figure 4.11

Because the sample objective calls for measuring significant growth over the year, the analysis needs to determine whether the differences in the group's pretest and posttest scores are statistically significant or whether they could have occurred by chance alone. As indicated in Figure 4.11, a t test or analysis of variance would be appropriate to use. Because statistical significance is based on a mathematical formula that includes the number of students tested, it is possible that if a large number of children were tested, a difference between the group's pretest and posttest averages of only one or two points could be statistically significant. However, it is also important to ask the question as to whether the differences were educationally significant. In this case a gain of only one or two points may indicate very little actual growth.

While the chart in Figure 4.11 deals with statistical techniques for analysis of data, it is important to remember that simple descriptive techniques such as graphs, bar charts and scattergrams are often effective when communicating the evaluation findings to persons not having a statistical background.

Step 8. Reports

Who Needs to Know About It? Reports are ways of conveying information to others. The types of reports (e.g., mid-year) and the recipients of the reports (e.g., the superintendent) should be entered on the form in the space provided. You may wish to go back to the explanation of this hypothetical project on page 11 and review which individuals and/or agencies wanted the information about the evaluation findings. Insert on the next page the individuals or groups to receive the reports.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.
4. Instruments	Woodcock Reading Test.
5. Design	Pretest-posttest.
6. Time Schedule	Pretest--September 15-18 Posttest--May 12-16
7. Analysis	Compute a t test to determine if a significant growth (at the .05 level) occurred.
8. Report	

Figure 4.12

Important audiences to receive the final report are the funding agency together with the superintendent and school board. School protocol requires that any information going to the board of education be submitted to the superintendent, who in turn sends the selected information required to the board together with recommendations, if any. Evaluators should consult with the superintendent or administrative representative regarding these matters. The superintendent may request that you make an oral presentation to the board, parent groups, or other audiences. In addition, it may be useful to prepare a separate brief summary of the evaluation findings.

Evaluation Plan

1. Objective	By the end of the school year, the fourth grade program students will have made significant growth in reading as measured by the Woodcock Reading Test.
2. Information Requirements	The reading scores for the fourth grade students administered at the beginning and end of the school year and the test norms.
3. Information Source	The fourth grade students.
4. Instruments	Woodcock Reading Test.
5. Design	Pretest-posttest.
6. Time Schedule	Pretest--September 15-18 Posttest--May 12-16
7. Analysis	Compute a t test to determine if a significant growth occurred. The test publisher's norms may also be useful to provide a descriptive level, in terms of grade equivalent scores, of the group's pretest and posttest means.
8. Report	Final report submitted to superintendent and funding agency.

Figure 4.13

Process Objective Example

Pages 24 to 38 have illustrated how eight steps can be used for preparing an evaluation plan related to a student outcome objective. A comprehensive evaluation plan may also address a program's impact on the community and other agencies. It may include a look at process objectives that are

instrumental in achieving the outcome objectives. An example of a process objective is shown in Figure 4.14 together with steps useful in evaluating it.

1. Objective	Teachers in the Webster reading program will participate in a four-day training workshop to learn the purposes of the curriculum and how to effectively implement it.
2. Information Requirements	1. A copy of the training workshop design (including purposes, expected outcomes and teaching strategies). 2. Names of the workshop staff and of the teachers scheduled to attend.
3. Information Source	1. The workshop staff 2. Workshop participants 3. Workshop observer
4. Instruments	1. Observation schedule 2. Pretest and posttest for participants 3. Workshop participant questionnaire 4. Attendance sheet
5. Design	1. Pre and post administration of the knowledge test. 2. The evaluator will attend the session and complete the observation schedule. 3. Participants will complete the questionnaire and the daily attendance sheets. 4. Workshop staff will be interviewed after the workshop.
6. Time Schedule	1. Pretest to be administered as the first activity. 2. Posttest to be administered as the last activity. 3. The evaluator will complete the observation schedule on the first and third morning and the second and fourth afternoon. 4. The questionnaire will be given the last afternoon before the posttest.
7. Analysis	1. A pretest analysis will be done indicating the participants' general level of knowledge about reading instruction prior to the workshop. 2. A t test will be used to determine if a significant growth in participants' knowledge occurred. 3. A tabulation of observations will be made to determine the level of involvement of workshop participants and the degree of congruency between the workshop plan and its implementation. 4. The questionnaire will be tabulated to determine the participants' view of how well they understand the purposes of the new curriculum and how to effectively implement it. 5. Participants' attendance will be summarized to indicate the average daily attendance in relation to the number of teachers scheduled to attend the workshop. 6. Workshop staff interviews will be summarized in narrative fashion.
8. Report	1. An oral report by the morning of the second day indicating the general areas of strengths and weaknesses of the participants based on their pretest results. 2. An oral debriefing by the evaluator based on observation notes on the day after the workshop. 3. A written report to the project director, superintendent and School Board reporting the complete evaluation findings regarding the workshop and the participants' suggestions for future training.

Figure 4.14

Having completed each of the eight steps, you are now ready to assess the completeness of an Evaluation Plan by checking each of the eight questions originally asked about any plan. These questions are presented in the form of a checklist below to help you make sure an evaluation plan answers these questions for each objective or area to be evaluated. Use of this checklist can help you to insure that you have not overlooked important elements involved in the evaluation of your objectives.

EVALUATION PLAN CHECKLIST

	Objectives Listed in Numerical Sequence From Your Proposal									
	1	2	3	4	5	6	7	8	9	...
1. What questions are being asked?										
2. What information is needed to answer the question?										
3. Where can the necessary information be secured?										
4. What can be used to find the answer?										
5. Who will complete the instruments and what comparisons may be made?										
6. When will the information be collected, analyzed and reported?										
7. What do we do with the data?										
8. Who needs to know about it?										

Figure 4.15

Timelog for an Evaluation

The timelog, Figure 4.16, may be helpful in monitoring evaluation activities. The evaluation is divided into its major components. Under each component are various activities associated with that component. Next to each item is space for the date when that activity should begin and when it should be completed. This can also serve as a checklist to make certain no oversight has occurred.

SAMPLE EVALUATION TIMELOG

ACTIVITY	DATE	COMPLETION DATE
1. Purpose of the evaluation		
a. Clarify what and why the evaluation is for (i.e., program improvement, funding decisions, etc.)	_____	_____
b. Clarify goals, objectives, questions or decisions	_____	_____
2. Plan the evaluation		
a. Prioritize objectives or questions	_____	_____
b. Determine information requirements	_____	_____
c. Determine information sources	_____	_____
d. Select or develop appropriate instruments	_____	_____
e. Select appropriate designs	_____	_____
f. Schedule implementation	_____	_____
g. Select appropriate analysis techniques	_____	_____
h. Determine appropriate audiences for various aspects of information	_____	_____
3. Implement the evaluation		
a. Assemble baseline data (if needed)	_____	_____
b. Administer evaluation instruments as scheduled with the evaluation plan	_____	_____
c. Collect process data on an ongoing basis	_____	_____
d. Analyze evaluation data	_____	_____
4. Reporting the information		
a. Report orally to proper individuals (if appropriate)	_____	_____
b. Interim/progress reports	_____	_____
c. Final report	_____	_____

Figure 4.16

The timelog displayed on the previous page is useful for monitoring the beginning and ending dates for individual activities in the evaluation process. Some administrators prefer a visual timeline in which they can see what evaluation activities are to occur throughout an entire year. An example of such a timeline is shown in Figure 4.17.

SAMPLE TIMELINE

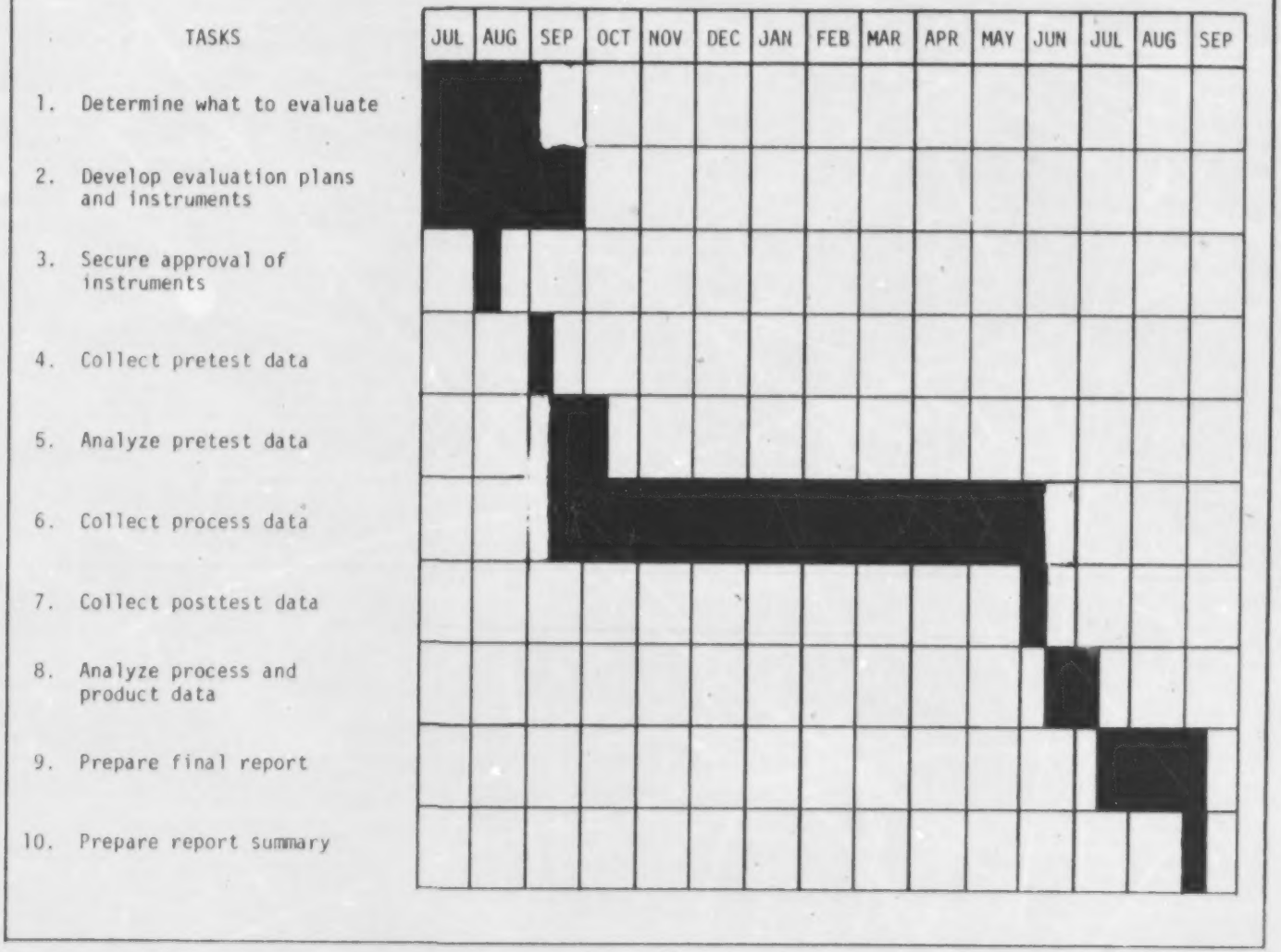


Figure 4.17

Assessing the Quality of the Evaluation Plan

So far we have discussed the elements of a comprehensive evaluation plan and provided a checklist for monitoring the completeness of such a plan. A plan can be complete and yet lacking in quality. The Checklist for Judging the Adequacy of an Evaluation Design developed by Sanders and Nafziger[4] and displayed in Figure 4.18 is useful to apply in assessing the quality of an evaluation plan.

[4]Sanders, J. R. and Nafziger, D. H. A Basis for Determining the Adequacy of Evaluation Designs, Portland, Oregon; Northwest Regional Educational Laboratory, October 1975. pp. 9-13.

CHECKLIST FOR JUDGING THE ADEQUACY OF AN EVALUATION DESIGN

Directions: For each question below, circle whether the evaluation design has clearly met the criterion (Yes), has clearly not met the criterion (No), or cannot be clearly determined (?) Circle NA if the criterion does not apply to the evaluation design being reviewed. Use the Elaboration column to provide further explanation for criterion where a No or a ? has been circled. The word "program" will be used to mean the program, project or product being evaluated.

Title of Evaluation Document: _____

Name of Reviewer: _____

Criterion	Criterion Met				Elaboration
I. Criteria Regarding the Adequacy of the Evaluation Conceptualization					
A. Conceptual Clarity and Adequacy					
1. Is an adequate description of the whole program presented?	Yes	No	?	NA	
2. Is a clear description given of the part of the program being evaluated?	Yes	No	?	NA	
3. Is a clear description of the evaluation approach given? (e.g., comparison group study, single group study, goal-free evaluation, formative, summative, etc.)	Yes	No	?	NA	
4. Is the evaluation approach adequate and appropriate for evaluating the program?	Yes	No	?	NA	
Based on the above, do you feel the evaluation is clearly and adequately conceived?	Yes	No	?	NA	
B. Scope					
1. Are the intended outcomes or goals of the program clearly specified?	Yes	No	?	NA	
2. Is the scope of the evaluation broad enough to gather information concerning all specified program outcomes?	Yes	No	?	NA	
3. Are any likely unintended effects from the program described?	Yes	No	?	NA	
4. Is the approach of the evaluation broad enough to include measuring these unintended effects?	Yes	No	?	NA	
5. Is adequate cost information about the program included in the scope of the evaluation?	Yes	No	?	NA	
Based on the above, do you feel the evaluation is adequate in scope?	Yes	No	?	NA	

Figure 4.18

Criterion	Criterion Met				Elaboration
C. Relevance					
1. Are the audiences for the evaluation identified?	Yes	No	?	NA	
2. Are the objectives of the evaluation explained?	Yes	No	?	NA	
3. Are the objectives of the evaluation congruent with the information needs of the intended audiences?	Yes	No	?	NA	
4. Does the information to be provided allow necessary decisions about the program or product to be made?	Yes	No	?	NA	
Based on the above, do you feel the information provided is relevant to and adequately serves the needs of the intended audience?	Yes	No	?	NA	
D. Flexibility					
1. Can the design be adapted easily to accommodate changes in plans?	Yes	No	?	NA	
2. Are known constraints or parameters on the evaluation discussed thoroughly?	Yes	No	?	NA	
3. Can useful information be obtained in the face of unforeseen constraints, e.g., non-cooperation of control groups?	Yes	No	?	NA	
Based on the above, do you feel the evaluation study allows for new information needs to be met as they arise?	Yes	No	?	NA	
E. Feasibility					
1. Are the evaluation resources (time, money and personnel) adequate to carry out the projected activities?	Yes	No	?	NA	
2. Are management plans specified for conducting the evaluation?	Yes	No	?	NA	
3. Has adequate planning been done to support the feasibility of conducting complex activities?	Yes	No	?	NA	
Based on the above, do you feel the evaluation can be carried out as planned?	Yes	No	?	NA	

Figure 4.18

Criterion	Criterion Met				Elaboration
II. Criteria Concerning the Adequacy of the Collection and Processing of Information					
A. Reliability					
1. Are data collection procedures described well and was care taken to assure minimal error?	Yes	No	?	NA	
2. Are scoring or coding procedures objective?	Yes	No	?	NA	
3. Are the evaluation instruments reliable? (i.e., is reliability information included)	Yes	No	?	NA	
Based on the above, do you feel that if the evaluation were conducted again the results would turn out the same?	Yes	No	?	NA	
B. Objectivity					
1. Have attempts to control for bias in data collection and processing been described?	Yes	No	?	NA	
2. Are sources of information clearly specified?	Yes	No	?	NA	
3. Do the biases of the evaluators preclude an objective evaluation?	Yes	No	?	NA	
Based on the above, do you feel adequate steps have been taken to ensure objectivity in the various aspects of the evaluation?	Yes	No	?	NA	

Figure 4.18

Criterion	Criterion Met				Elaboration
C. Representativeness					
1. Are the data collection instruments valid?	Yes	No	?	NA	
2. Are the data collection instruments appropriate for the purposes of this evaluation?	Yes	No	?	NA	
3. Does the evaluation adequately address the questions it was intended to answer?	Yes	No	?	NA	
Based on the above, do you feel the information collection and processing procedures ensure that the results accurately represent the program?	Yes	No	?	NA	
D. Generalizability					
1. Are sampling techniques adequate to permit generalizations to the population of interest?	Yes	No	?	NA	
2. Does the cultural context of data collection techniques affect generalization?	Yes	No	?	NA	
3. Are the inferential statistics employed appropriate for the sample, data and the questions to be answered?	Yes	No	?	NA	
Based on the above, do you feel the information collected can be generalized when necessary?	Yes	No	?	NA	
III. Criteria Concerning the Adequacy of the Presentation and Reporting of Information					
A. Timeliness					
1. Have efficient reporting techniques been used to meet the needs of the clients?	Yes	No	?	NA	
2. Does the time schedule for reporting meet the needs of the audience?	Yes	No	?	NA	
Based on the above, do you feel the information is timely enough to be of use to the client?	Yes	No	?	NA	

 Figure 4.18

Criterion	Criterion Met				Elaboration
B. Pervasiveness					
1. Is information disseminated to all intended audiences?	Yes	No	?	NA	
2. Are contractual constraints on dissemination of evaluation information observed?	Yes	No	?	NA	
3. Are attempts being made to make the evaluation information available to relevant audiences beyond those specified in the contract?	Yes	No	?	NA	
Based on the above, do you feel that information is being provided to all who need it?	Yes	No	?	NA	
IV. General Criteria					
A. Ethical Considerations					
1. Do test administration procedures follow professional standards of ethics?	Yes	No	?	NA	
2. Have protection of human subjects guidelines been followed?	Yes	No	?	NA	
3. Has confidentiality of data been guaranteed?	Yes	No	?	NA	
Based on the above, do you feel the evaluation study strictly follows professional standards of ethics?	Yes	No	?	NA	
B. Protocol					
1. Are appropriate persons contacted in the appropriate sequence?	Yes	No	?	NA	
2. Are Department policies and procedures to be followed?	Yes	No	?	NA	
Based on the above, do you feel appropriate protocol steps were planned?	Yes	No	?	NA	

Figure 4.18

5
IMPLEMENTING THE EVALUATION

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IMPLEMENTING THE EVALUATION

How Do You Collect and Analyze the Information?

Now that you have prepared an evaluation design you are left with the task of implementing it. This section will provide you with some hints to use in collecting and processing information.

Collecting Baseline Data

Baseline data are data which describe or reflect the students' level of development, achievement or attitude before they experienced the program or process you are evaluating. This may be information from previous tests or previous year's work, attendance, etc. If information such as growth or change in specific students is needed, baseline data will provide their starting point.

The collection of file data as a baseline is generally easy since the information is already available. However, certain preliminary arrangements need to be made, such as:

- identifying where each set of data is located
- determining who has authorized access to the files
- preparing a form for recording all of the data to be collected
- training and supervising the persons collecting the data (if other than yourself)
- scheduling time for the data collection

Points to Keep in Mind When Testing

Here are some important points to keep in mind when planning and administering tests.

Explain Your Purposes. Be sure to tell students why you are testing and encourage them to do their best. Let them know if the test results will affect them in some way such as for selection of program participants or for individual student counseling.

Environment and Other Considerations. Test administration should be uniform for all groups of students tested. Directions for administering each of the evaluation instruments should be studied by the testers prior to the day of testing since these may affect the size of the group to be tested at one time, room conditions or the need for special materials (such as stop watch, if a timed test is being used).

The testing location should be well lighted and have adequate ventilation. There should be sufficient testing space for each student, both for comfort and to minimize the possibilities of copying. The same test instructions should be used for all groups of students tested and the timing of testing sessions, where appropriate, should be strictly followed. Each student should have a sharpened No. 2 lead pencil when Digitek or other machine-readable answer sheets are used. It is a good idea to provide these sharpened pencils and collect them with the test booklet and answer sheets. Extra pencils should be available if needed.

Careful monitoring during the testing period is necessary, especially when special answer sheets are being used. It is important that students understand how and where to mark answers since only portions of some answer

sheets are used and there are wide format differences among answer sheets. During this time the examiner can also check to see that the correct pencils are being used since marks made in ink are not readable by machine.

When students complete the tests, examine them immediately for missing sections, multiple responses and lack of identification. In this way the difficult problem of going back to the students can be avoided.

Follow-up. Immediately after student testing, it is useful for the test administrator to write down any irregularities that may have occurred during the testing period. This information is useful in helping to interpret unusual results. Scoring and coding of evaluation instruments should begin as soon as possible after the instruments are administered. This minimizes loss of data and insures a quicker availability of test results.

Processing Data

You need to decide whether program data are to be scored and/or coded within the district or contracted to a person or agency outside of the district. If the data are scored or coded within the district a decision is needed as to whether it will be done manually or by machine.

A decision whether to contract with a person or agency outside the district for scoring and coding services is influenced by factors such as:

- The availability of trained personnel within the district to provide these services
- The availability of necessary machine scoring facilities within the district
- The availability of funds for an outside contract
- The turnaround time of either service
- The costs of either service
- The accuracy likely under either service

A decision as to whether instruments should be scored manually or by machine is influenced by factors such as:

- The number of instruments to be scored
- The availability of trained personnel, equipment and programs for scoring the instruments
- The turnaround time of either system
- The costs of either system

6

REPORTING EVALUATION FINDINGS

6

REPORTING EVALUATION FINDINGS

How Should I Report the Evaluation Findings? First recall who the primary audiences are for the report and the types of questions the audiences are likely to have about the findings. This will help determine when to give the report, the level of presentation, and appropriate methods for reporting.

Timing

Remember:

A report limited in scope but presented prior to making program decisions is preferable to a comprehensive report presented two weeks after important program decisions have been made.

Purposes

Since we saw in Section 1 that evaluation can serve multiple purposes, it is natural that the same data may be reported at different times and in different ways.

For example, the Woodcock Reading Test used in our earlier examples can illustrate this point. If individual student pretest data were returned to the respective classroom teachers, they might use the results to place students in one of three homogeneous reading groups, to determine which students may need a more in-depth diagnostic test and to determine what particular strengths and weaknesses their class as a whole has in reading in order to gear reading instruction more appropriately. To do these things, the results would have to be made available to teachers as early as possible after the tests were administered.

If the same test had been used in prior years and a new reading series were introduced this year, the teachers would probably be interested in comparing student growth between the current and prior year results. For this purpose they would probably want to receive the evaluation report prior to the one week teacher planning conference in August in order to consider modifications in their reading program for the coming year.

Interim Reports

Interim reports are particularly useful for providing feedback to the project staff that they can use in refining a program's operations. For example, classroom observations during the first two months of the school year may reveal that students are usually not completing assignments properly because the directions are inadequate. A timely interim report addressing this issue could allow the project staff to reword or expand other written directions so that students could more profitably complete future assignments during the remainder of the school year.

Interim reports are also useful if the decision to continue the funding of a project must be made prior to the availability of a completed end-of-year evaluation report. If you know that such a funding decision were to be made in late April, you might develop an evaluation design in which all program students were pretested in September, a random half were posttested in

in late March and the other half in mid May. The design might also call for classroom observation between January and March to focus on the quality of program implementation and on teacher questionnaires or interviews in March to record the teachers' perceptions of the program and their recommendations regarding its improvement.

How Much Detail to Include

The question of how detailed or specific to make a report also relates back to an understanding of the audience. If the report is to be given about individual classrooms, teachers are usually interested in specifics. If the report contains data for an entire district, it may be best to simply summarize it and place the details in an appendix. The same data may be reported to various audiences at various levels of specificity. For example, a complete evaluation report may be a summary description of the instruments used to measure a particular objective, the student population or sample, procedures used to analyze the data, the statistical findings and a discussion of the findings related to that objective. Project staff may be primarily interested in a discussion of how recommendations could be used to improve the program. Parents or community persons may simply be interested in a single sentence summarizing how students performed on a particular objective.

A written evaluation report should be organized so that various audiences can quickly assess the information of particular interest to them. If a program evaluation report is intended for the funding agency, don't forget to see what forms or report format they might require or suggest. A moderately detailed table of contents can be very helpful to the reader.

Report Format

Effective evaluation reports can occur in both oral and written format. Oral reports are particularly appropriate as initial feedback from visiting consultants or site review team members. Such a debriefing can allow for a sharing of the observer's first-hand perceptions and can facilitate a useful exchange between the observer and project staff. Thus, when an oral debriefing occurs it is helpful to have the observer react to some questions or issues that served as the focus for the site visit as well as to share

his or her perceptions regarding unanticipated outcomes of the program. Reactions by the project staff to the observer's comments are also important before discussing alternative recommendations that may arise.

A comprehensive written evaluation report usually contains the following sections:

- Executive Summary (a 3- to 10-page overview of the report findings and recommendations)
- Introduction (identifies the purposes and audiences for the report, provides an overview of the contents and describes any disclaimers if needed)
- Program Description (can contain some of the information in Chapter 2 of this manual)
- Objectives/Questions to be addressed by the evaluation
- Description of Evaluation procedures, designs and instruments (in summary fashion here with more details, if needed, in the appendix)
- Discussion of Findings (It is sometimes useful to organize the findings, first around the instruments used and, secondly, around the evaluation questions or objectives.)
- Conclusions and/or Recommendations (Enough information should be given here to allow the reader to see the rationale and data base for any recommendations.)
- Appendices (Separate appendices containing locally developed instruments, technical data and detailed tabulations can make the body of the report less technical.)

Report Summaries

Since many evaluation consumers do not have the time or interest to read a thick or technical report, it is important to communicate a summary of the findings. An executive summary is an important element in a total evaluation report. A separate evaluation digest (of perhaps five to fifteen pages) and an evaluation abstract (of one or two pages) are also handy and useful for parents, legislators, board members and others interested in an overview of the findings.

The executive summary, if presented as an introductory chapter to a comprehensive report, can include both the findings and suggestions concerning what sections of the total report may be of special interest to certain audiences. The evaluation digest and abstract, on the other hand, should

each be written as self-contained documents that do not refer to specific sections of the total report. While the evaluation digest may cite the findings and reference them to the types of evaluation instruments and procedures used to produce them, the abstract usually includes only the major findings and recommendations without attempting to document them.

Utilizing Evaluation Findings

Before deciding what actions to take on the basis of a completed evaluation report some administrators have found it a useful practice to obtain a separate technical critique of the report from another evaluator. This outside review gives them a better idea of how reliable the evaluation procedures were. This in turn can help them determine how much to trust the findings. Other administrators request a separate informal report of the project staff, thus obtaining their perceptions of the program. Reactions of the project staff to the evaluation report itself are also useful before taking action on any of its recommendations.

Sometimes the persons conducting an evaluation may do an excellent job of collecting and reporting program findings and yet not be expert in preparing recommendations. Therefore some administrators will call in knowledgeable people to review the evaluation findings and then propose a set of recommendations based on their content knowledge of the program. Sometimes a conference is then held of project staff, evaluators, community members, outside consultants and other district staff to jointly review and discuss recommendations. Such a procedure gives the broadest base for determining important changes that may be made in a project.

Closing Statement

We hope that this book has helped you to understand better how to plan, carry out and use evaluation. Although your evaluation efforts may not be as technical or complex as a university research study, they should be handled in such a way as to have meaning and utility in improving your programs or activities. Your understanding of evaluation will increase as you apply to problems facing your school or district what you have learned. Good luck!

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ANNOTATED BIBLIOGRAPHY AND SELECTED REFERENCES

7

ANNOTATED BIBLIOGRAPHY AND SELECTED REFERENCES

Anderson, S.B., Ball, S., Murphy, R.T. & Associates. *Encyclopedia of Educational Evaluation.* San Francisco, California: Jossey-Bass, Inc., 1975.

This encyclopedia contains over 100 short articles covering many aspects of evaluation including evaluation models, functions of evaluation, program objectives and standards, social context of evaluation, design, measurement approaches, and analysis and interpretation. The articles are written at an introductory level and provide references for more in-depth treatment. Administrators will find this encyclopedia a useful way of obtaining introduction to evaluation topics of special interest to them.

Campbell, D.T., & Stanley, J.C. *Experimental and Quasi-Experimental Designs for Research.* Chicago, Illinois: Rand McNally College Publishing Company, 1963.

Long considered the bible of research and evaluation design, this paperback examines systematically the validity of 16 experimental de designs against 12 common threats to valid inference. The cautions identified should help you in selecting an appropriate design for your program evaluation.

Gottman, J.M., & Clasen, R.E. *Evaluation in Education: A Practitioner's Guide.* Itasca, Illinois: F.E. Peacock Publishers, Inc., 1972.

The authors have developed a programmed textbook to assist the reader in learning how to: do a needs assessment, write measurable objectives and design measurement procedures, flowchart, a and design and use quality control procedures. The use of time-series analysis is given much attention. The appendix explains a number of basic statistics.

Isaac, S., & Michael, W.B. *Handbook in Research and Evaluation.* San Diego, California: Robert R. Knapp, 1971.

This is a well organized, easily accessed reference. It is quite brief but touches on most topics related to program evaluation, such as planning evaluation studies, research designs, measurement, statistical techniques and data analysis.

Lyman, H.B. *Test Scores and What They Mean.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963.

This readable paperback describes some basic attributes of a test (validity, reliability and usability), some elementary test statistics and ways in which test results can be used appropriately. Helpful ideas are also presented on ways to

Mager, R.F. *Preparing Instructional Objectives.* Belmont, California: Fearon Publishers, Inc., 1975.

It has become a classic in a very short time as a "how to" book on preparing instructional objectives. It is understandable and contains many good examples.

Stufflebeam, D.L & et al. *Educational Evaluation & Decision Making.* Itasca, Illinois: F.E. Peacock Publishers, Inc., 1971.

This book was written by a seven-member Phi Delta Kappa National Study Committee on Evaluation. It contains an in-depth analysis of educational evaluation springing from the authors' comprehensive definition of evaluation. Administrators may be particularly interested in the chapters dealing with educational decision making and with the one on organization and administration of evaluation units in school districts.

Vargas, J.S. *Writing Worthwhile Behavioral Objectives.* New York, New York: Harper & Row, Publishers, Inc., 1972.

This is a good follow-up to Mager's book described above. Once an objective is prepared, it should be judged as to its worthwhileness. This is an easy-to-read book which can help you assess the worth of specific objectives.

Webb, E., Campbell, D., Schwarts, R., & Sechrest, L. *Unobtrusive Measures: Non-reactive Research in the Social Sciences.* Chicago, Illinois: Rand McNally & Company, 1966.

The title is more ominous than the contents. Often when we measure things in the classroom, the teacher or students change as a result. Unobtrusive measurements are designed to minimize this effect. This book describes a number of unobtrusive procedures that can be used in program evaluation.

Worthen, B.R., & Sanders, J.R. *Educational Evaluation: Theory and Practice.* Worthington, Ohio: Charles A. Jones Publishing Company, 1973.

This book of readings is particularly helpful in providing the reader with frameworks for planning evaluation studies. Various evaluation models are described by their authors and each is followed by a paper describing how the model was actually applied. Administrators may be particularly interested in the chapter dealing with the relationship between the evaluator and the decision maker.

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